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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KO, JASON Y

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,959	Applicant(s) SHIKAMORI ET AL.	
	Examiner JASON Y. KO	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Applicant's Amendments

This Office Action is responsive to the amendment filed on 10/16/09. Claims 1-31 are pending. Claims 1, 5, 9, 10, 24, 29, and 30 have been amended.

Response to Arguments

The claim rejections under 35 U.S.C. 112 have been withdrawn in response to Applicant's amendments filed October 16, 2009.

The claim rejections under 35 U.S.C. 103(a), have been withdrawn in response to Applicant's amendments filed October 16, 2009.

Applicant's arguments are considered moot in light of the withdrawal of claim rejections as stated above.

Claim Rejections

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

1. **Claims 1-10, and 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276).**

Art Unit: 1792

2. Regarding Claim 1, LEE teaches a drum type washing machine comprising: an outer case (housing 12, Fig. 1); a tub (14, Fig. 1) in the outer case having a drain hole (near reference numeral 30, Fig. 1) at a lowest portion; a drum 16 rotatably mounted in the tub, with a driving motor 24; a filter case 110 mounted at a front portion of the outer case to be exposed to an outside of the washing machine such that a user directly accesses the filter case; a drain pipe 30 connected between the drain hole in the tub and the filter case; a drain filter (200, Fig. 2) disposed between a drain inlet and a drain outlet in the filter case, wherein the filter case accommodates the drain filter therein; and a drain hose 34 connected to the drain outlet (near where reference numeral 130 points to) in the filter case for draining water from the filter case to an outside of the washing machine (See Fig. 1).

3. LEE appears to fail to explicitly teach an overflow hole at an upper portion of the tub but it is known to use overflow holes in a washing machine. For example, KAMANO teaches an overflow hole 20 for draining overflowing water (See col. 2 lines 36-47). Furthermore, regarding Claims 28-29, KAMANO teaches the use of a first overflow hose (17, Fig. 1) connected between a tub side overflow hole (where reference numeral 5 is or overflow hole 20, Fig. 1) at a position above the drain hole of the tub and the filter case; and a second overflow hose (drain intermediate hose 18, Fig. 1) for draining. Regarding Claims 24 and 29, bellows are commonly used with filters for allowing water to flow through before the water is discharged. Additionally, bellows are very commonly made of elastic material which undergo extension and contraction.

Art Unit: 1792

4. Thus, it would have been obvious to one of ordinary skill in the art to modify the washing machine as taught by LEE and have an overflow hole as well as two overflow hoses as taught by KAMANO to use multiple overflow hoses with a filter in the drain pathway for their intended purposes, especially if a filter case is mounted beneath the tub.

5. LEE also fails to explicitly teach a drain valve mounted to the drain pipe, but it would have been obvious to one of ordinary skill in the art to modify the washing machine having a drain system as taught by LEE to have drain valve (as even KAMANO teaches, drain valve 15, Fig. 1), because it is very well known and obvious to use valves in controlling fluid flow, particularly if the fluid is being manipulated, such as being run through a filter.

6. Regarding Claim 2, it is well known and obvious to form a filter case separately from an outer case of a washing machine, because this allows for easier fixing/removing/replacing of a filter case. Additionally, injection molding of filter cases, such as those made of synthetic resins is well known and obvious. Additionally, LEE teaches a filter case which is separate from the outer case. Thus, Claim 2 is considered unpatentable over LEE in view of KAMANO.

7. Regarding Claims 3-4, it would be obvious to one of ordinary skill in the art to mount a filter case on either the middle or a side, because there are limited configurations regarding the position in which a filter case could be mounted, and thus it would be obvious to try and mount the filter case in these positions.

Art Unit: 1792

8. Claim 5 is considered unpatentable over LEE in view of KAMANO because it appears that the filter case is mounted to be rotatable in LEE due to the circular shape of the casing. See Fig. 2. Regarding Claim 6, LEE suggests/teaches the lowest point of the drain filter to be at a point higher than a residual water level in a drain path (drain pipe 34, Fig. 1). Regarding Claim 7, it would be obvious to try and locate the filter at different positions or also modify the horizontally oriented filter of LEE and arrange it vertically, including a configuration in which the filter case has a top end positioned at a height of at least 70cm from a bottom of the washing machine, which would allow for more convenient user access (no need to bend over or crouch to access the filter).

Claim 8 is considered unpatentable over LEE in view of KAMANO because LEE already suggests a configuration in which the filter case is mounted such that the top end is positioned so that the filter case is not opened when a door is not opened. This claimed invention would be obvious because it is obvious to provide a door or cover to individual parts for protection or separate access, and LEE already teaches a filter case housing which is a unit that stands alone by itself. Regarding Claim 10, the LEE teaches the filter to have meshes, See Fig. 2).

9. Claims 9 and 26-27 are unpatentable over LEE in view of KAMANO because it is obvious and well known to affix components (including a filter case) by using a hook and hook holder combination (and the hook would also read on a pull of Claim 9), and one of ordinary skill in the art would have known to mount a filter case using a hook assembly (instead of the rotatably threaded arrangement of LEE to accomplish the same expected result of affixing the filter case to the housing).

Art Unit: 1792

10. Claims 21-23 are unpatentable over LEE in view of KAMANO because it is well known and obvious to use elastic members including tension or torsion springs for holding structural components (including filter cases) in place. By mounting using an elastic member, a user may more easily replace the component because the mounted component will be biased towards the user.

11. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO and have a filter case mounted using elastic members, to mount the filter case in a well known and obvious way and also to be able to more easily replace or access the filter case (because that the filter case of LEE is made separate).

12. Claim 25 is unpatentable over LEE in view of KAMANO because the filter case as taught by LEE has a residual water outlet in the vicinity of the lowest point thereof (piping where reference numeral 130 is pointing to, and it would be obvious to have a residual water drain plug provided for selective opening/closing, because valve-functions are obvious and LEE already teaches a effectively three-way valve 20 and KAMANO teaches a valve 15 which allow for selective opening and closing for controlling draining.

13. Claim 30 is unpatentable over LEE in view of KAMANO because LEE teaches the filter case to be projected forward from the front surface of the outer case (with the front surface being the left side wall of Fig. 1 and the forward being rightward).

14. Claim 31 is unpatentable over LEE in view of KAMANO because it is very well known and obvious to use a drain pump for improved draining of fluid systems.

Art Unit: 1792

15. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of DANIELS (USPN 5,645,732).

16. LEE in view of KAMANO is relied upon as described above in the rejection of Claim 10.

17. Claims 11-12 are directed to a drain filter having a hinged bail, which LEE in view of KAMANO fails to teach explicitly.

18. It is also well known to use a hinged bail for taking out a filter. For example, DANIELS teaches the use of a mesh filter which includes a hinged bail for taking out the filter, See Figs. 5-6.

19. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine having a drain filter as taught by LEE in view of KAMANO and modify the filter to have a hinged bail as taught by DANIELS, to have a predictable and well known common filter and also for easier handling of the filter.

20. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of SURI et al. (USPN 5,702,592).

21. LEE in view of KAMANO is relied upon as described above in the rejection of Claim 1.

22. Claims 13-18 are directed to filter and filter case detecting means of a washing machine, which LEE in view of KAMANO fails to teach explicitly.

Art Unit: 1792

23. It is well known in the art of washing machines to have filter (and other component) detecting means. For example, SURI et al. the use of a filter monitoring device if a filter element is missing in the housing (Regarding Claim 16, see col. 6 lines 36-39). Regarding Claims 17-18, it would be obvious to use different filter detecting means such as optical sensors or microswitches which are well known in the art of monitoring/sensors, especially because SURI et al. teaches the use of distance sensing means of a filter monitoring device using optical sensors (col. 5 lines 62-65) and other contact or non-contact measuring means, which would render a microswitch obvious (see cols. 5-6). Even without the teaching of SURI et al., using a microswitch as a sensor which can be turned on/off would be obvious because it is very well known in the art. Furthermore, regarding Claims 13-15, it would be obvious to detect a filter case rather than a filter, because both methods solve

24. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of SURI et al. (USPN 5,702,592), further in view of CHOI (KR 1020010073574A).

25. LEE in view of KAMANO further in view of SURI et al. is relied upon as described above in the rejection of Claim 13.

26. Claims 19-20 are directed to a filter case lock switch assembly which includes a solenoid and a plunger, which LEE in view of KAMANO further in view of SURI et al. fails to teach explicitly.

Art Unit: 1792

27. However it is well known in the art to use filter case lock switch assemblies having a solenoid and a plunger. For example, CHOI teaches to use a door lock switch assembly comprising a switch case, a solenoid and a plunger. See abstract. It would be obvious to one of ordinary skill in the art to apply such a door switch assembly to a filter case lock assembly, because a filter case may be integrated as part of a door or simply as a different, known, and obvious method to mount and secure the filter case.

28. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO further in view of SURI et al. and secure the filter case using a lock switch assembly as taught by CHOI, to be able to accomplish the well known and predictable result of mounting the filter case.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1792

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON Y. KO whose telephone number is 571-270-7451. The examiner can normally be reached on Monday-Thursday; 9:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL BARR can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JYK/
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28 January 2010

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